

Access DB# 232578

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Kelly Stouffer Examiner #: 82787 Date: 7-30-07  
Art Unit: 1762 Phone Number 30 2665 Serial Number: 09/744426  
Mail Box and Bldg/Room Location: 8A64 (rem) Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Process for coating glass

Inventors (please provide full names): Kevin Sanderson

Earliest Priority Filing Date: 8/1/1998

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Looking for the basic concept of  
oxidizing a metal halide or oxyhalide  
with an ether during a vapor  
deposition process to receive a  
metal oxide film/layer

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Cntr

JUL 30

Pat. & T.M. Office

\*\*\*\*\*

Searcher: EL NA Sequence (#) \_\_\_\_\_ STN \_\_\_\_\_  
Searcher Phone #: \_\_\_\_\_ AA Sequence (#) \_\_\_\_\_ Dialog \_\_\_\_\_  
Searcher Location: \_\_\_\_\_ Structure (#) \_\_\_\_\_ Questel/Orbit \_\_\_\_\_  
Date Searcher Picked Up: \_\_\_\_\_ Bibliographic \_\_\_\_\_ Dr. Link \_\_\_\_\_  
Date Completed: 8-3-07 Litigation \_\_\_\_\_ Lexis/Nexis \_\_\_\_\_  
Searcher Prep & Review Time: \_\_\_\_\_ Fulltext \_\_\_\_\_ Sequence Systems \_\_\_\_\_  
Clerical Prep Time: \_\_\_\_\_ Patent Family \_\_\_\_\_ WWW/Internet \_\_\_\_\_  
Online Time: \_\_\_\_\_ Other \_\_\_\_\_ Other (specify) \_\_\_\_\_

PTO-1590 (8-01)

**SEARCH REQUEST FORM**

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Requester's Full Name: Kelly Stouffer Examiner #: 82787 Date: 7-30-07  
 Art Unit: 1762 Phone Number 30 2665 Serial Number: 09/744426  
 Mail Box and Bldg/Room Location: 9A44 (rem) Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Process for coating glass

Inventors (please provide full names): Kevin Sanderson

Earliest Priority Filing Date: 8/1/1998

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Looking for the basic concept of  
 oxidizing a metal halide or oxyhalide  
 with an ether during a vapor  
 deposition process to receive a  
 metal oxide film/layer

SCIENTIFIC REFERENCE BR  
 Sci & Tech Inf. Cntr.

JUL 30

Pat. & T.M. Office

**STAFF USE ONLY**

	Type of Search	Vendors and cost where applicable
Searcher: <u>ES</u>	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>8-3-07</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

=> FILE REG

FILE 'REGISTRY' ENTERED ON 03 AUG 2007

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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2007 American Chemical Society (ACS)

=> D HIS

FILE 'REGISTRY'

L1 20779 S (W (L) X)/ELS  
L2 158 S L1 (L) 2/ELC.SUB  
L3 123 S L1 (L) O/ELS (L) 3/ELC.SUB  
E TUNGSTEN CARBONYL/CN  
L4 1 S E3  
E ETHYL ACETATE/CN  
L5 1 S E3  
E BUTYL ACETATE/CN  
L6 1 S E3  
L7 597407 S (C (L) H (L) O)/ELS (L) 3/ELC.SUB AND 2/O  
L8 139238 S L7 AND ESTER#  
L9 63774 S L8 NOT PMS/CI  
L10 1 S L9 AND L5  
L11 1 S L9 AND L6

FILE 'HCA'

L12 126764 S (CVD OR (CHEMICAL? OR CHEM) (2A) (VAPOR? OR VAPOUR?) (2A) D  
L13 5558 S L2  
L14 915 S L3  
L15 3349 S L4  
L16 109293 S L5 OR ETHYLACETATE# OR (ETHYL# OR ET) (A) ACETATE# OR ETO  
L17 22667 S L6 OR BUTYLACETATE# OR (BUTYL# OR BU OR NBU OR SBU OR T  
L18 363982 S L9  
L19 3 S L12 AND (L13 OR L14 OR L15) AND (L16 OR L17 OR L18)

FILE 'REGISTRY'

E W/ELS  
L20 170988 S E3

FILE 'HCA'

L21 269677 S L20  
L22 10 S L12 AND L21 AND (L16 OR L17 OR L18)  
L24 3 S L23 OR L19  
L25 7 S L22 NOT L24

=> FILE HCA

FILE 'HCA' ENTERED ON 03 AUG 2007

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=> D L24 1-3 BIB ABS HITSTR HITIND

L24 ANSWER 1 OF 3 HCA COPYRIGHT 2007 ACS on STN

AN 142:396152 HCA

TI Atmospheric Pressure **Chemical Vapor**

**Deposition** of Crystalline Monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x Thin  
Films from Reaction of WCl<sub>6</sub> with O-Containing Solvents and Their  
Photochromic and Electrochromic Properties

AU Blackman, Christopher S.; Parkin, Ivan P.

CS Department of Chemistry, University College London, London, WC1H  
0AJ, UK

SO Chemistry of Materials (2005), 17(6), 1583-1590

CODEN: CMATEX; ISSN: 0897-4756

PB American Chemical Society

DT Journal

LA English

AB The atm. pressure **chem. vapor deposition**

(**CVD**) reaction of WCl<sub>6</sub> with a variety of reactants  
(ethanoic anhydride, ethanoic acid, Et ethanoate, methanol, ethanol,  
2-propanol, 2-methyl-2-propanol, and water) was examd. on glass  
substrates. The deposited films displayed strikingly different  
morphologies with differing reactants under otherwise identical  
conditions. Full characterization revealed that the films were all  
monoclinic WO<sub>3</sub>, but the different morphologies lead to significant  
differences in the functional properties of the deposited films,  
such as photochromism and photocatalysis. The effects of the  
**CVD** parameters on deposited films were extensively studied  
for the reaction of WCl<sub>6</sub> with ethanoic anhydride.

IT **141-78-6**, Ethyl ethanoate, processes

(O-contg. solvent, precursor; atm.-pressure **CVD** of  
cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with  
O-contg. solvents and their photochromic and electrochromic  
properties)

RN 141-78-6 HCA

CN Acetic acid ethyl ester (CA INDEX NAME)

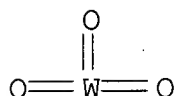
Et-O-Ac

IT **1314-35-8DP**, Tungsten oxide (WO<sub>3</sub>), oxygen-deficient,  
preparation **1314-35-8P**, Tungsten oxide (WO<sub>3</sub>), preparation

(films; atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with O-contg. solvents and their photochromic and electrochromic properties)

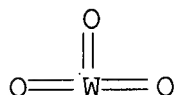
RN 1314-35-8 HCA

CN Tungsten oxide (WO<sub>3</sub>) (CA INDEX NAME)



RN 1314-35-8 HCA

CN Tungsten oxide (WO<sub>3</sub>) (CA INDEX NAME)

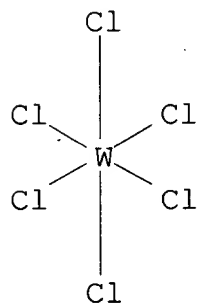


IT **13283-01-7**

(precursor; atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with O-contg. solvents and their photochromic and electrochromic properties)

RN 13283-01-7 HCA

CN Tungsten chloride (WCl<sub>6</sub>), (OC-6-11)- (CA INDEX NAME)



CC 57-2 (Ceramics)

Section cross-reference(s): 73

ST tungsten oxide film **CVD** chloride precursor photochromism photocatalysis

IT Photochromism

(atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with O-contg. solvents and their photochromic and electrochromic properties)

IT **Vapor deposition** process

(**chem.**, atm.-pressure; atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with

O-contg. solvents and their photochromic and electrochromic properties)

IT Catalysis

(photochem.; atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with O-contg. solvents and their photochromic and electrochromic properties)

IT 64-17-5, Ethanol, processes 64-19-7, Ethanoic acid, processes

67-56-1, Methanol, processes 67-63-0, 2-Propanol, processes

75-65-0, 2-Methyl-2-propanol, processes 108-24-7, Ethanoic

anhydride **141-78-6**, Ethyl ethanoate, processes

7732-18-5, Water, processes

(O-contg. solvent, precursor; atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with O-contg. solvents and their photochromic and electrochromic properties)

IT **1314-35-8DP**, Tungsten oxide (WO<sub>3</sub>), oxygen-deficient,

preparation **1314-35-8P**, Tungsten oxide (WO<sub>3</sub>), preparation

(films; atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and

WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with O-contg. solvents and their photochromic and electrochromic properties)

IT **13283-01-7**

(precursor; atm.-pressure **CVD** of cryst. monoclinic WO<sub>3</sub> and WO<sub>3</sub>-x films from reaction of WCl<sub>6</sub> with O-contg. solvents and their photochromic and electrochromic properties)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 3 HCA COPYRIGHT 2007 ACS on STN

AN 141:318327 HCA

TI Photocatalytically active  $\gamma$ -WO<sub>3</sub> films from the atmospheric pressure **CVD** of WOCl<sub>4</sub> with **ethyl acetate** or ethanol

AU O'Neill, Shane; Parkin, Ivan P.; Clark, Robin J. H.; Mills, Andrew; Elliott, Nickolas

CS Department of Chemistry, Christopher Ingold Laboratories, University College London, London, WC1H 0AJ, UK

SO Chemical Vapor Deposition (2004), 10(3), 136-141  
CODEN: CVDEFX; ISSN: 0948-1907

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

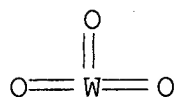
AB Yellow  $\gamma$ -WO<sub>3</sub> coatings were deposited on glass by atm. pressure **CVD** (APCVD) of WOCl<sub>4</sub> and either ethanol or **ethylacetate** at 350-450°C. The films show

significant photoactivity for the destruction of stearic acid, and photoinduced superhydrophilicity. Prepn. of blue reduced WO<sub>2.92</sub> films from the same reaction at higher substrate temps.

(500-600°C) is also possible. These films show no

photoactivity, but can be converted into the fully stoichiometric photoactive form simply by heating in air.

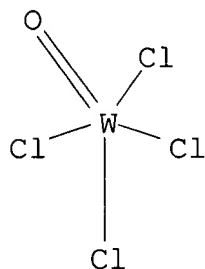
IT **1314-35-8P**, Tungsten oxide (WO<sub>3</sub>), preparation  
**60383-51-9P**, Tungsten oxide (WO<sub>2.92</sub>)  
 (films; atm.-pressure **CVD** prepn. of photocatalytically active  $\gamma$ -WO<sub>3</sub> films from WOCl<sub>4</sub> in **Et acetate** or EtOH)  
 RN 1314-35-8 HCA  
 CN Tungsten oxide (WO<sub>3</sub>) (CA INDEX NAME)



RN 60383-51-9 HCA  
 CN Tungsten oxide (W25073) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
O	73	17778-80-2
W	25	7440-33-7

IT **13520-78-0**, Tungsten oxychloride WOCl<sub>4</sub>  
 (precursor; atm.-pressure **CVD** prepn. of photocatalytically active  $\gamma$ -WO<sub>3</sub> films from WOCl<sub>4</sub> in **Et acetate** or EtOH)  
 RN 13520-78-0 HCA  
 CN Tungsten chloride oxide (WCl<sub>4</sub>O) (9CI) (CA INDEX NAME)



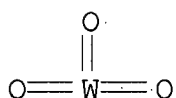
IT **141-78-6**, **Ethyl acetate**, uses  
 (solvent; atm.-pressure **CVD** prepn. of photocatalytically active  $\gamma$ -WO<sub>3</sub> films from WOCl<sub>4</sub> in **Et acetate** or EtOH)  
 RN 141-78-6 HCA  
 CN Acetic acid ethyl ester (CA INDEX NAME)



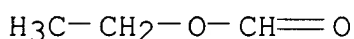
Et-O-Ac

- CC 57-2 (Ceramics)  
Section cross-reference(s): 66, 67, 78
- ST tungsten oxide photocatalyst film **CVD** property
- IT **Vapor deposition** process  
(**chem.**, atm.-pressure; atm.-pressure **CVD**  
prepn. of photocatalytically active  $\gamma$ -WO<sub>3</sub> films from WOCl<sub>4</sub>  
in **Et acetate** or EtOH)
- IT Catalysis  
(photochem.; photoinduced superhydrophilicity of, and  
photocatalytic decompn. of stearic acid by,  $\gamma$ -WO<sub>3</sub> films  
prepd. by atm.-pressure **CVD**)
- IT Hydrophilicity  
(superhydrophilicity, photoinduced; photoinduced  
superhydrophilicity of, and photocatalytic decompn. of stearic  
acid by,  $\gamma$ -WO<sub>3</sub> films prepd. by atm.-pressure **CVD**)
- IT Photolysis catalysts  
(tungsten oxide film; photoinduced superhydrophilicity of, and  
photocatalytic decompn. of stearic acid by,  $\gamma$ -WO<sub>3</sub> films  
prepd. by atm.-pressure **CVD**)
- IT **1314-35-8P**, Tungsten oxide (WO<sub>3</sub>), preparation  
**60383-51-9P**, Tungsten oxide (WO<sub>2.92</sub>)  
(films; atm.-pressure **CVD** prepn. of photocatalytically  
active  $\gamma$ -WO<sub>3</sub> films from WOCl<sub>4</sub> in **Et**  
**acetate** or EtOH)
- IT 57-11-4, Stearic acid, processes  
(model org. pollutant; photoinduced superhydrophilicity of, and  
photocatalytic decompn. of stearic acid by,  $\gamma$ -WO<sub>3</sub> films  
prepd. by atm.-pressure **CVD**)
- IT **13520-78-0**, Tungsten oxychloride WOCl<sub>4</sub>  
(precursor; atm.-pressure **CVD** prepn. of  
photocatalytically active  $\gamma$ -WO<sub>3</sub> films from WOCl<sub>4</sub> in  
**Et acetate** or EtOH)
- IT 64-17-5, Ethanol, uses **141-78-6**, **Ethyl**  
**acetate**, uses  
(solvent; atm.-pressure **CVD** prepn. of  
photocatalytically active  $\gamma$ -WO<sub>3</sub> films from WOCl<sub>4</sub> in  
**Et acetate** or EtOH)
- RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L24 ANSWER 3 OF 3 HCA COPYRIGHT 2007 ACS on STN
- AN 135:186807 HCA
- TI Atmospheric pressure **chemical vapor**  
**deposition** of electrochromic tungsten oxide films
- AU Gordon, R. G.; Barry, S.; Barton, J. T.; Broomhall-Dillard, R. N. R.

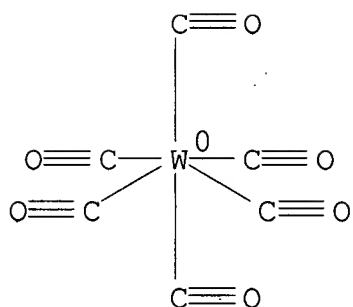
CS Department of Chemistry and Chemical Biology, Harvard University,  
Cambridge, MA, 02138, USA  
SO Thin Solid Films (2001), 392(2), 231-235  
CODEN: THSFAP; ISSN: 0040-6090  
PB Elsevier Science S.A.  
DT Journal  
LA English  
AB WO<sub>x</sub> is a coloring layer commonly used in electrochromic windows and displays. Successful commercialization of these devices will require the deposition of WO<sub>x</sub> layers with extremely uniform thickness and material properties over large areas at high speeds and low cost. A new atm. pressure **chem. vapor deposition** process is presented that should be able to meet these goals. New liq. W precursors were found to have properties suitable for this application: sufficient volatility, reactivity to oxygen at substrate temps. of 200-300°, lack of reactivity to air and water at room temp., and low viscosity (7 cP at 40°). The precursors are tungsten pentacarbonyl 1-methylbutylisonitrile and tungsten pentacarbonyl n-pentylisonitrile, C<sub>5</sub>H<sub>11</sub>NCW(CO)<sub>5</sub>. These liq. precursors can be synthesized readily from com. available reactants. Data on the compn. and structure of the tungsten oxide films are presented, along with spectroscopic characterization of the films in transparent (oxidized) and colored (reduced) states.  
IT **1314-35-8P**, Tungsten oxide, properties  
(atm. pressure **chem. vapor deposition**  
of electrochromic tungsten oxide films)  
RN 1314-35-8 HCA  
CN Tungsten oxide (WO<sub>3</sub>) (CA INDEX NAME)



IT **109-94-4**, Ethylformate **14040-11-0**, Tungsten hexacarbonyl  
(in prepn. of precursors for atm. pressure **chem. vapor deposition** of electrochromic tungsten oxide films)  
RN 109-94-4 HCA  
CN Formic acid, ethyl ester (CA INDEX NAME)



RN 14040-11-0 HCA  
CN Tungsten carbonyl (W(CO)<sub>6</sub>), (OC-6-11)- (CA INDEX NAME)

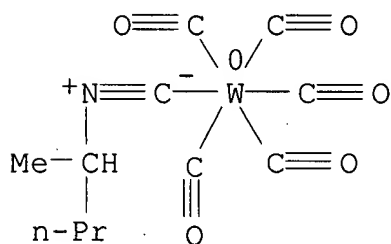


IT 347145-08-8P 347145-09-9P

(precursor; in atm. pressure **chem. vapor**  
**deposition** of electrochromic tungsten oxide films)

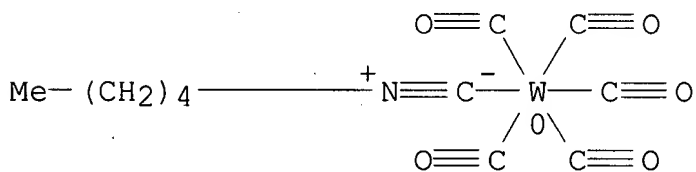
RN 347145-08-8 HCA

CN Tungsten, pentacarbonyl[2-(isocyano-κC)pentane]-, (OC-6-21)-  
 (9CI) (CA INDEX NAME)



RN 347145-09-9 HCA

CN Tungsten, pentacarbonyl[1-(isocyano-κC)pentane]-, (OC-6-21)-  
 (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 75

ST tungsten oxide electrochromic film CVD

IT **Vapor deposition** process

(**chem.**, atm. pressure; of electrochromic tungsten oxide  
 films)

IT Films

(electrochromic; atm. pressure **chem. vapor**

**deposition** of electrochromic tungsten oxide films)

IT Electrochromic materials

(films; atm. pressure **chem. vapor deposition** of electrochromic tungsten oxide films)

IT Composition  
Thickness  
(of electrochromic tungsten oxide films prepd. by atm. pressure **chem. vapor deposition**)

IT Spectra  
(transmission; atm. pressure **chem. vapor deposition** of electrochromic tungsten oxide films)

IT **1314-35-8P**, Tungsten oxide, properties  
(atm. pressure **chem. vapor deposition** of electrochromic tungsten oxide films)

IT **109-94-4**, Ethylformate 110-58-7, n-Pentylamine  
**14040-11-0**, Tungsten hexacarbonyl 63493-28-7,  
1-Methylbutylamine  
(in prepn. of precursors for atm. pressure **chem. vapor deposition** of electrochromic tungsten oxide films)

IT 59734-19-9P 355377-26-3P  
(in prepn. of precursors for atm. pressure **chem. vapor deposition** of electrochromic tungsten oxide films)

IT **347145-08-8P 347145-09-9P**  
(precursor; in atm. pressure **chem. vapor deposition** of electrochromic tungsten oxide films)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> D L25 1-7 BIB ABS HITSTR HITIND

L25 ANSWER 1 OF 7 HCA COPYRIGHT 2007 ACS on STN  
AN 144:264088 HCA  
TI Vapor-phase diamond synthesis and its hot-filament **CVD**  
apparatuses capable of precision control of source concentration  
IN Matsushima, Yuta; Suzuki, Takeshi  
PA Tokyo University of Agriculture & Technology, Japan  
SO Jpn. Kokai Tokkyo Koho, 20 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
PI	JP 2006056744	A	20060302	JP 2004-240050	200408

19

PRAI JP 2004-240050

20040819

AB The apps. arrange electrostatic atomizers for (water-thinned) org. solvents and means for supplying liq. **CVD** sources, sep. outside and inside the **CVD** chambers. The chambers are filled with H(g) and are supplied with org. solvents which are atomized, mixed with H(g), and deposit diamond. The solvents may be alkanes, alcs., ethers, carboxylic acids, esters, and/or ketones and satisfy elec. cond.  $(1.0 + 10^{-11}) - (1.0 + 10^{-2})$  S/m.

IT **7440-33-7**, Tungsten, uses  
(hot filament; vapor-phase diamond synthesis in hot-filament **CVD** apps. under precision control of source concn.)

RN 7440-33-7 HCA

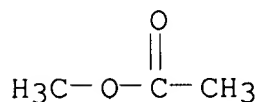
CN Tungsten (CA INDEX NAME)

W

IT **79-20-9**, Methyl acetate **123-86-4**, **Butyl acetate**  
(sources; vapor-phase diamond synthesis in hot-filament **CVD** apps. under precision control of source concn.)

RN 79-20-9 HCA

CN Acetic acid, methyl ester (CA INDEX NAME)



RN 123-86-4 HCA

CN Acetic acid, butyl ester (CA INDEX NAME)

n-Bu-O-Ac

CC 75-1 (Crystallography and Liquid Crystals)

ST vapor phase diamond synthesis solvent atomizer; atomized methyl acetate hydrogen reaction diamond **CVD**

IT Alcohols, processes

Alkanes, processes

Carboxylic acids, processes

Esters, processes

Ethers, processes

Ketones, processes

(**CVD** sources; vapor-phase diamond synthesis in hot-filament **CVD** apps. under precision control of source concn.)

IT **Vapor deposition** process  
(**chem.**; **vapor**-phase diamond synthesis in  
hot-filament **CVD** apps. under precision control of  
source concn.)

IT Spray atomizers  
(electrostatic; vapor-phase diamond synthesis in hot-filament  
**CVD** apps. under precision control of source concn.)

IT Solvents  
(org., **CVD** sources; vapor-phase diamond synthesis in  
hot-filament **CVD** apps. under precision control of  
source concn.)

IT Atomizing (spraying)  
Vapor deposition apparatus  
(vapor-phase diamond synthesis in hot-filament **CVD**  
apps. under precision control of source concn.)

IT **7440-33-7**, Tungsten, uses  
(hot filament; vapor-phase diamond synthesis in hot-filament  
**CVD** apps. under precision control of source concn.)

IT 1333-74-0, Hydrogen, processes  
(reactive gases; vapor-phase diamond synthesis in hot-filament  
**CVD** apps. under precision control of source concn.)

IT 64-17-5, Ethanol, processes 67-56-1, Methanol, processes  
67-63-0, 2-Propanol, processes 67-64-1, Acetone, processes  
71-23-8, 1-Propanol, processes **79-20-9**, Methyl acetate  
111-15-9, 2-Ethoxyethyl acetate **123-86-4**, **Butyl**  
**acetate** 142-82-5, Heptane, processes  
(sources; vapor-phase diamond synthesis in hot-filament  
**CVD** apps. under precision control of source concn.)

IT 7782-40-3P, Diamond, preparation  
(vapor-phase diamond synthesis in hot-filament **CVD**  
apps. under precision control of source concn.)

IT 7732-18-5, Water, uses  
(vapor-phase diamond synthesis in hot-filament **CVD**  
apps. under precision control of source concn.)

L25 ANSWER 2 OF 7 HCA COPYRIGHT 2007 ACS on STN

AN 142:466443 HCA

TI Photovoltaic devices fabricated from insulating nanostructured  
template

IN Roscheisen, Martin R.; Sager, Brian M.; Pichler, Karl

PA Nanosolar, Inc., USA

SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. Ser. No.  
443,456.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

PATENT NO.

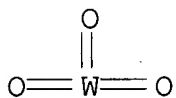
KIND

DATE

APPLICATION NO.

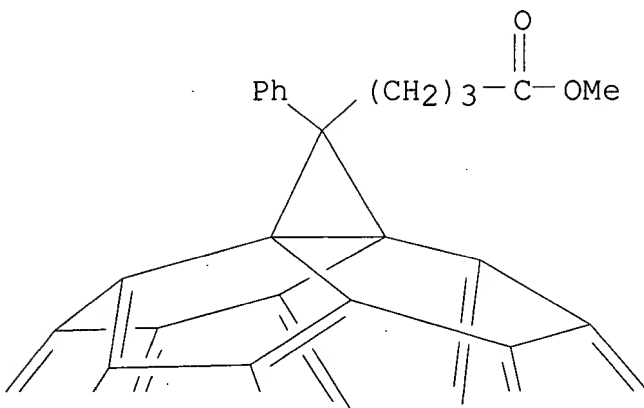
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PI	US 2005098205	A1	20050512	US 2004-771250	20040202
	US 2005121068	A1	20050609	US 2003-443456	20030521
	US 6946597	B2	20050920		
	DE 102005003846	A1	20051027	DE 2005-102005003846	20050127
	US 2007050816	A1	20070301	US 2006-527748	20060926
PRAI	US 2003-443456	A2	20030521		
	US 2002-390904P	P	20020622		
	US 2002-290119	A2	20021105		
	US 2002-303665	A2	20021122		
	US 2002-319406	A2	20021211		
	US 2003-443546	A2	20030522		
	US 2004-771250	A	20040202		
AB	<p>Photovoltaic devices, such as solar cells, and methods for their manuf. are disclosed. A device may be characterized by an architecture with an inorg. insulating nanostructured template having template elements between about 1 nm and about 500 nm in diam. with an elements d. of between about 1012 elements/m2 and about 1016 elements/m2. A first charge-transfer material coats the walls of the template elements leaving behind addnl. space. A second charge-transfer material fills the addnl. space such that the first and second charge-transfer materials are volumetrically interdigitated. At least one charge transfer material has an absorbance of greater than about 103/cm. The first and second charge-transfer materials have complementary charge transfer properties with respect to each other. A LUMO or conduction band of the first charge-transfer material is offset from a LUMO or conduction band of the second charge-transfer material by greater than about 0.2 eV. An elec. conductive material may optionally be disposed between the nanostructured template and the first charge-transfer material.</p>				
IT	<p><b>1314-35-8</b>, Tungsten oxide, uses <b>160848-22-6</b>, PCBM (photovoltaic devices fabricated from insulating nanostructured template)</p>				
RN	1314-35-8 HCA				
CN	Tungsten oxide (WO3) (CA INDEX NAME)				



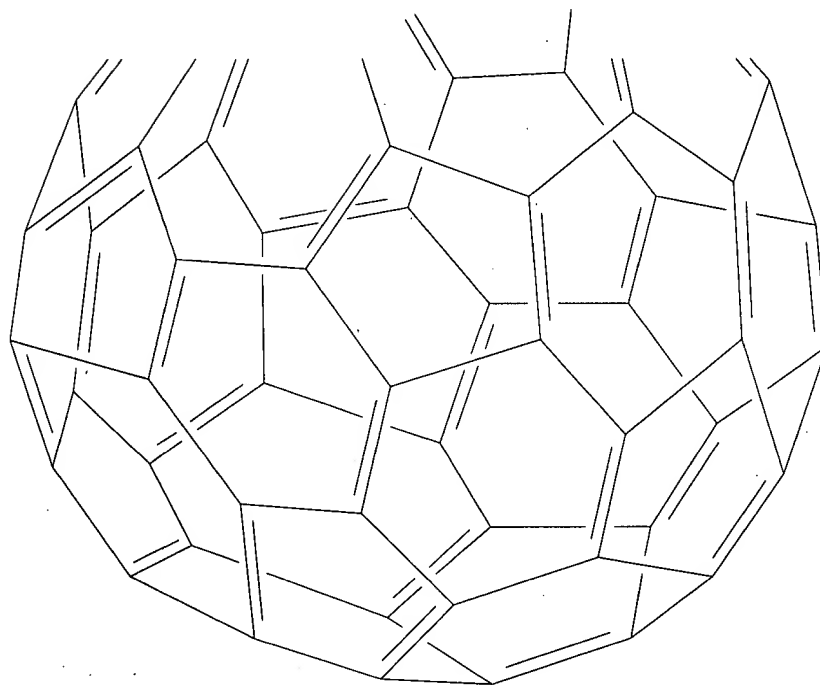
RN 160848-22-6 HCA  
CN 3'H-Cyclopropa[1,9][5,6]fullerene-C60-Ih-3'-butanoic acid,  
3'-phenyl-, methyl ester (CA INDEX NAME)

PAGE 1-A





PAGE 2-A



IC ICM H01L031-00  
INCL 136263000; 136256000; 136244000  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 38, 76  
IT **Vapor deposition** process  
(**chem.**; photovoltaic devices fabricated from insulating nanostructured template)  
IT 110-01-0, Tetrahydrothiophene 110-02-1, Thiophene 135-48-8, Pentacene 147-14-8, Copper phthalocyanine 198-55-0, Perylene 574-93-6, Phthalocyanine 1306-19-0, Cadmium oxide, uses 1306-23-6, Cadmium sulfide, uses 1306-24-7, Cadmium selenide, uses 1306-25-8, Cadmium telluride, uses 1312-43-2, Indium oxide 1312-81-8, Lanthanum oxide 1314-11-0, Strontium oxide, uses 1314-13-2, Zinc oxide (ZnO), uses 1314-23-4, Zirconium oxide, uses **1314-35-8**, Tungsten oxide, uses 1315-09-9, Zinc selenide 1315-11-3, Zinc telluride 1317-38-0, Copper oxide, uses 1332-29-2, Tin oxide 1344-70-3, Copper oxide 7440-18-8D, Ruthenium, dyes 7440-21-3, Silicon, uses 9033-83-4, Poly(phenylene) 11098-99-0, Molybdenum oxide 11099-11-9, Vanadium oxide 11115-78-9, Copper sulfide 12049-50-2, Calcium titanium oxide 12627-00-8, Niobium oxide 13463-67-7, Titania, uses 14320-04-8, Zinc phthalocyanine 23627-89-6, Naphthalocyanine 25233-34-5, Polythiophene 26009-24-5, Poly(p-phenylenevinylene) 50926-11-9, Ito 66280-99-7, Poly(thienylenevinylene) 91201-85-3, Poly(isothianaphthene)

95270-88-5D, Polyfluorene, copolymer 96638-49-2,  
 Polyphenylenevinylene 98743-25-0, Copper indium selenide  
 99685-96-8D, Fullerene c60, carboxy deriv. 104934-50-1,  
 Poly(3-hexylthiophene) 106769-84-0, Cadmium selenide telluride  
 108568-44-1, Poly(hexyl-2,5-thiophenediyl) 108568-49-6,  
 Poly(octyl-2,5-thiophenediyl) 110134-47-9, Poly(3-hexyl-2,5-  
 thiophenediyl) 110590-81-3, 2,9-Di(pent-3-yl)-anthra[2,1,9-  
 def:6,5,10-d'e'f']diisoquinoline-1,3,8,10-tetrone 110590-84-6,  
 2,9-Bis(1-hexyl-hept-1-yl)-anthra[2,1,9-def:6,5,10-  
 d'e'f']diisoquinoline-1,3,8,10-tetrone 126213-51-2, Pedot  
 137191-58-3, Poly(3-octyl-2,5-thiophenediyl) 138184-36-8,  
 Poly(2-methoxy-5-(2-ethylhexyloxy)1,4-phenylene-vinylene  
**160848-22-6**, PCBM

(photovoltaic devices fabricated from insulating nanostructured  
 template)

L25 ANSWER 3 OF 7 HCA COPYRIGHT 2007 ACS on STN

AN 141:266047 HCA

TI Medical implants coated with biocompatible carbon-containing layers

PA Blue Membranes GmbH, Germany

SO Ger. Gebrauchsmusterschrift, 23 pp.

CODEN: GGXXFR

DT Patent

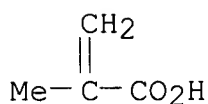
LA German

FAN.CNT 10

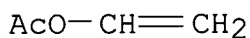
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 202004009060	U1	20040916	DE 2004-202004009060	200405 10
	DE 10322182	A1	20041202	DE 2003-10322182	200305 16
	DE 10324415	A1	20041216	DE 2003-10324415	200305 28
	DE 10333098	A1	20050210	DE 2003-10333098	200307 21
PRAI	DE 2003-10322182	A1	20030516		
	DE 2003-10324415	A1	20030528		
	DE 2003-10333098	A1	20030721		
AB	The invention concerns medical implants that are coated with biocompatible carbon-layers composed; the layers are prepd. by (a) at least partial covering or coating of a medical implant with a polymer film; (b) heating the polymer film to 2000-2500°C in an oxygen-free atm. The medical device is prepd. from carbon,				

carbon-composite material, glass, ceramics, glass fibers, carbon fibers, metals, stainless steel, titanium, tantalum, platinum, nitinol, alloys, artificial bone, minerals, and their combinations; during heat treatment they are transferred in their heat-stable modifications. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, artificial hearts and heart valves, artificial bones and joints are prepd. Polymers are applied by conventional coating techniques, e.g. from polymer solns.; carbon and silicon can be deposited in a PVD or **CVD** process. The biocompatible carbon layer can be coated with a bioresorbant or biodegradable polymer layer, e.g. polylactide. The implants can be loaded with drugs, microorganisms or cells.

IT **79-41-4D**, Methacrylic acid, esters, polymers  
**108-05-4D**, Vinylacetate, copolymers with phthalates  
**12605-92-4**, ASTM F90  
 (medical implants coated with biocompatible carbon-contg. layers)  
 RN 79-41-4 HCA  
 CN 2-Propenoic acid, 2-methyl- (CA INDEX NAME)



RN 108-05-4 HCA  
 CN Acetic acid ethenyl ester (CA INDEX NAME)



RN 12605-92-4 HCA  
 CN Cobalt alloy, base, Co 46-58, Cr 19.0-21.0, W 14.0-16.0, Ni 9.0-11.0, Fe 0-3.0, Mn 0-2.00, Si 0-1.00, C 0.05-0.15 (UNS R30605) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Co	46 - 58	7440-48-4
Cr	19.0 - 21.0	7440-47-3
W	14.0 - 16.0	7440-33-7
Ni	9.0 - 11.0	7440-02-0
Fe	0 - 3.0	7439-89-6
Mn	0 - 2.00	7439-96-5
Si	0 - 1.00	7440-21-3
C	0.05 - 0.15	7440-44-0

IC ICM A61L027-28  
 ICS B05D003-02; C23C016-56

CC 63-7 (Pharmaceuticals)

IT **Vapor deposition** process

(**chem.**; medical implants coated with biocompatible carbon-contg. layers)

IT 50-02-2, Dexamethasone 50-23-7, Hydrocortisone 50-24-8, Prednisolone 50-56-6, Oxytocin, biological studies 50-78-2, Acetylsalicylic acid 51-41-2, Norepinephrine 51-43-4, Epinephrine 51-45-6, Histamine, biological studies 51-61-6, Dopamin, biological studies 52-53-9, Verapamil 53-03-2, Prednisone 53-06-5, Cortisone 53-86-1, Indomethacin 54-05-7, Chloroquine 56-23-5, Carbon tetrachloride, biological studies 56-54-2, Quinidine 56-75-7, Chloramphenicol 57-22-7, Vincristin 57-41-0, Phenytoin 57-62-5 57-92-1, Streptomycin, biological studies 58-14-0, Pyrimethamine 58-61-7, Adenosine, biological studies 59-05-2, Methotrexate 59-30-3, Folic acid, biological studies 60-54-8, Tetracycline 60-54-8D, Tetracycline, derivs. 61-33-6, Penicillin G, biological studies 61-68-7, Mefenamic acid 62-55-5, Thioacetamide 63-74-1, Sulfonamide 64-17-5, Ethanol, biological studies 67-96-9, Dihydrotachysterol 68-35-9, Sulfadiazine 69-53-4, Ampicillin 71-63-6, Digitoxin 79-10-7D, Acrylic acid, esters, polymers **79-41-4D**, Methacrylic acid, esters, polymers 79-57-2, Oxytetracycline 80-08-0, Dapson 83-43-2, Methylprednisolone 87-08-1, Penicillin V **108-05-4D**, Vinylacetate, copolymers with phthalates 114-07-8, Erythromycin 118-42-3, Hydroxychloroquine 119-04-0, Framycetin 120-73-0D, Purine, derivs. 124-94-7, Triamcinolone 127-07-1, Hydroxycarbamide 127-31-1, Fludrocortisone 130-95-0D, Quinine, derivs. 137-58-6, Lidocaine 140-64-7, Pentamidine diisethionate 154-21-2, Lincomycin 289-95-2D, Pyrimidine, derivs. 302-79-4, Tretinoin 356-12-7, Fluocinonide 361-37-5 365-26-4, Oxilofrine 370-14-9, Pholedrine 378-44-9, Betamethasone 382-67-2, Desoximetasone 443-48-1, Metronidazol 466-06-8 484-23-1, Dihydralazin 500-92-5, Proguanil 511-12-6, Dihydroergotamine 525-66-6, Propranolol 536-21-0, Norfenefrine 552-94-3, Salsalate 555-30-6, Methyldopa 564-25-0, Doxycycline 586-06-1, Orciprenaline 630-60-4, Ouabain 638-94-8, Desonide 644-62-2 660-27-5, Diisopropyl amine dichloroacetate 709-55-7, Etilefrine 738-70-5, Trimethoprim 768-94-5, Amantadine 807-38-5, Fluocinolone 865-21-4, Vinblastin 1066-17-7, Colistin 1306-05-4, Fluorapatite 1306-06-5, Hydroxylapatite 1393-87-9, Fusafungin 1403-66-3, Gentamicin 1404-00-8, Mitomycin 1404-04-2, Neomycin 1404-26-8, Polymyxin-B 1404-90-6, Vancomycin 1406-05-9, Penicillin 1524-88-5, Flurandrenolide 1695-77-8, Spectinomycin 1951-25-3, Amiodarone 2589-47-1, Prajmaliumbitartrate, biological studies 2809-21-4, Etidronic acid 3056-17-5, Stavudine 3093-35-4, Halcinonide 3385-03-3, Flunisolide 3737-09-5, Disopyramide 3930-20-9, Sotalol 4360-12-7, Ajmalin 4419-39-0, Beclomethasone 4428-95-9,

Foscarnet 4828-27-7, Clocortolone 4936-47-4, Nifuratel  
5104-49-4, Flurbiprofen 5355-48-6 6452-71-7, Oxprenolol  
6990-06-3, Fusidinic acid 7439-95-4D, Magnesium, alloys  
7440-06-4, Platinum, biological studies 7440-22-4, Silver,  
biological studies 7440-25-7, Tantalum, biological studies  
7440-32-6, Titanium, biological studies 7440-41-7, Beryllium,  
biological studies 7440-66-6, Zinc, biological studies  
7481-89-2, Zalcitabine 7542-37-2, Paromomycin 7631-86-9, Silica,  
biological studies 7681-49-4, Sodium fluoride, biological studies  
7758-87-4, Tricalciumphosphate 8001-27-2, Hirudin 8025-81-8,  
Spiramycin 8067-24-1, Dihydroergotoxine methane sulfonate  
9000-94-6, Antithrombin 9001-90-5, Plasmin 9002-01-1,  
Streptokinase 9002-60-2, Corticotropin, biological studies  
9002-71-5, Thyrotrophin 9002-72-6, Growth hormone 9002-84-0,  
Polytetrafluoroethylene 9002-86-2, Polyvinylchloride 9002-88-4,  
Polyethylene 9002-89-5, Polyvinylalcohol 9003-07-0,  
Polypropylene 9003-08-1, Melamine resin 9003-17-2, Polybutadiene  
9003-27-4, Polyisobutene 9003-28-5, Polybutene 9003-39-8,  
Polyvinylpyrrolidone 9003-53-6, Polystyrene 9004-34-6D,  
Cellulose, derivs. 9004-54-0, Dextran, biological studies  
9004-61-9, Hyaluronic acid 9004-64-2, Hydroxypropylcellulose  
9004-65-3, Hydroxypropylmethylcellulose 9004-67-5, Methylcellulose  
9005-25-8, Starch, biological studies 9005-49-6, Heparin,  
biological studies 9007-12-9, Calcitonin 9012-76-4, Chitosan  
9039-53-6, Urokinase 9061-61-4, NGF 10118-90-8, Minocycline  
10163-15-2, Disodium fluorophosphate 10596-23-3, Clodronic acid  
11056-06-7, Bleomycin 11096-26-7, Erythropoietin 11111-12-9,  
Cephalosporin 11128-99-7, Angiotensin II 12525-40-5,  
Fluorapatite 12597-68-1, Stainless steel, biological studies  
**12605-92-4**, ASTM F90 12629-01-5, Somatropin 12646-94-5,  
ASTM F562 12683-48-6 12724-48-0, ASTM F1314 12783-71-0  
13010-20-3, Nitrosourea 13292-46-1, Rifampicin 13463-67-7,  
Titanium dioxide, biological studies 14402-89-2, Nitroprusside  
sodium 14636-12-5, Terlipressin 15307-86-5, Diclofenac  
15663-27-1, Cisplatin 15686-71-2, Cefalexin 15687-27-1,  
Ibuprofen 15802-18-3 16662-47-8, Gallopamil 16679-58-6,  
Desmopressin 16846-24-5, Josamycin 18323-44-9, Clindamycin  
19216-56-9, Prazosin 19387-91-8, Tinidazol 19388-87-5,  
Taurolidine 20830-75-5, Digoxin 20830-81-3, Daunorubicin  
21256-18-8, Oxaprozin 21829-25-4, Nifedipine 22071-15-4,  
Ketoprofen 22204-53-1, Naproxen 22254-24-6, Ipratropium bromide  
22494-42-4, Diflunisal 23155-02-4, Fosfomycin 23214-92-8,  
Doxorubicin 24937-78-8, Polyethylenevinyl acetate 25014-41-9,  
2-Propenenitrile, homopolymer 25038-59-9,  
Polyethyleneterephthalate, biological studies 25122-41-2,  
Clobetasol 25190-06-1, Polytetramethylene glycol 25322-68-3,  
Polyethylene oxide 25322-69-4, Polypropylene oxide 25614-03-3,  
Bromocriptine 25953-19-9, Cefazolin 26009-03-0, Polyglycolide

26023-30-3, D,L-Lactic acid, homopolymer 26063-00-3,  
 Polyhydroxybutyrate 26099-09-2, Polymaleic acid 26100-51-6,  
 Polylactic acid 26171-23-3, Tolmetin 26202-08-4, Polyglycolide  
 26744-04-7 26787-78-0, Amoxicillin 26807-65-8, Indapamide  
 26844-12-2, Indoramin 29122-68-7, Atenolol 29679-58-1,  
 Fenopropfen 30209-88-2 30516-87-1, Zidovudine 30578-37-1,  
 Amezinium methyl sulfate 30685-43-9, Metildigoxin 31621-87-1,  
 Polydioxanone 31828-71-4, Mexiletine 32986-56-4, Tobramycin  
 33069-62-4, Paclitaxel 33515-09-2, Gonadorelin 33774-52-6,  
 Detajmumbitartrate, biological studies 34346-01-5, Glycolic  
 acid-lactic acid copolymer 34368-04-2, Dobutamine 34661-75-1,  
 Urapidil 35607-66-0, Cefoxitin 36322-90-4, Piroxicam  
 36703-88-5 36791-04-5, Ribavirin 36877-68-6D, Nitroimidazole,  
 derivs. 37203-62-6, Blood coagulation factor XIIa 37246-34-7,  
 ASTM F67-1 37517-28-5, Amikacin  
 (medical implants coated with biocompatible carbon-contg. layers)

L25 ANSWER 4 OF 7 HCA COPYRIGHT 2007 ACS on STN

AN 133:122818 HCA

TI Fabrication of **chemical vapor deposited**  
 electrode component for batteries and capacitors

IN Muffoletto, Barry C.; Shah, Ashish; Nesselbeck, Neal

PA Wilson Greatbatch Ltd., USA

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1026762	A1	20000809	EP 2000-300977	20000208
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2000228187	A	20000815	JP 2000-30304	20000208

PRAI US 1999-119012P P 19990208

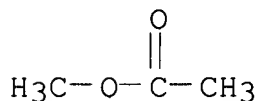
AB An electrode component for an electrochem. cell is described wherein the electrode is produced by **chem. vapor depositing** an electrode active material onto a substrate to coat the substrate. The thus produced electrode is useful as a cathode in a primary electrochem. cell and as a cathode and an anode in a secondary cell, and as an electrode in an electrochem. capacitor and an electrolytic capacitor.

IT 79-20-9, Methyl acetate 7440-33-7, Tungsten, uses

(fabrication of **chem. vapor deposited**  
electrode component for batteries and capacitors)

RN 79-20-9 HCA

CN Acetic acid, methyl ester (CA INDEX NAME)



RN 7440-33-7 HCA

CN Tungsten (CA INDEX NAME)

W

IC ICM H01M004-02

ICS H01M004-04; C23C016-30; C23C016-40; H01G009-00

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 76

ST electrode component **chem vapor deposited**  
battery capacitor

IT Alkali metals, uses  
(anode; fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)

IT Metals, uses  
Oxides (inorganic), uses  
Sulfides, uses  
(cathode active material; fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)

IT **Vapor deposition** process  
(**chem.**; fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)

IT Battery cathodes  
Battery electrodes  
Capacitor electrodes  
(fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)

IT Carbonaceous materials (technological products)  
(fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)

IT Vapor deposition process  
(plasma; fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)

- IT 7439-93-2P, Lithium, uses  
(anode; fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)
- IT 1313-13-9P, Manganese dioxide, uses 1313-99-1P, Nickel oxide nio, uses 1344-70-3P, Copper oxide 7440-44-0P, Carbon, uses 11104-61-3P, Cobalt oxide 11105-02-5P, Silver vanadium oxide 11115-78-9P, Copper sulfide 11118-57-3P, Chromium oxide 11126-12-8P, Iron sulfide 12039-13-3P, Titanium disulfide 12068-85-8P, Iron disulfide 51311-17-2P, Carbon fluoride 181183-66-4P, Copper Silver vanadium oxide  
(cathode active material; fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)
- IT 67-68-5, DmsO, uses 68-12-2, Dmf, uses 75-05-8, Acetonitrile, uses **79-20-9**, Methyl acetate 96-48-0,  $\gamma$ -Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-29-2,  $\gamma$ -Valerolactone 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 111-96-6, Diglyme 112-49-2, Triglyme 127-19-5, Dimethyl acetamide 143-24-8, Tetraglyme 556-65-0, Lithium thiocyanate 616-38-6, Dimethyl carbonate 629-14-1, 1,2-Diethoxyethane 872-50-4, uses 2923-17-3 2923-20-8 5137-45-1, 1-Ethoxy-2-methoxyethane 7439-88-5, Iridium, uses 7439-89-6, Iron, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-03-1, Niobium, uses 7440-04-2, Osmium, uses 7440-05-3, Palladium, uses 7440-16-6, Rhodium, uses 7440-18-8, Ruthenium, uses 7440-22-4, Silver, uses **7440-33-7**, Tungsten, uses 7440-48-4, Cobalt, uses 7440-58-6, Hafnium, uses 7440-62-2, Vanadium, uses 7440-66-6, Zinc, uses 7440-67-7, Zirconium, uses 7791-03-9, Lithium perchlorate 11121-90-7, Mild steel, uses 13453-75-3, Lithium fluorosulfate 14024-11-4, Lithium tetrachloroaluminate 14283-07-9, Lithium tetrafluoroborate 14485-20-2, Lithium tetraphenylborate 15955-98-3, Lithium tetrachlorogallate 18424-17-4, Lithium hexafluoroantimonate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6 115028-88-1 132404-42-3  
(fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)
- IT 7429-90-5, Aluminum, uses 7440-06-4, Platinum, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-57-5, Gold, uses 12597-68-1, Stainless steel, uses  
(substrate; fabrication of **chem. vapor deposited** electrode component for batteries and capacitors)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD



## ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 5 OF 7 HCA COPYRIGHT 2007 ACS on STN

AN 132:145386 HCA

TI Electrode for a high pressure discharge lamp with long life span

IN Setzer, Carsten

PA Patent-Treuhand-Gesellschaft Fuer Elektrische Gluehlampen Mbh,  
Germany

SO Ger. Offen., 8 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
PI	DE 19835476	A1	20000210	DE 1998-19835476	199808 06
	CA 2304210	A1	20000217	CA 1999-2304210	199902 10
	WO 2000008672	A1	20000217	WO 1999-DE372	199902 10
	W: CA, CN, JP, KR, SG, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1019948	A1	20000719	EP 1999-910123	199902 10
	EP 1019948	B1	20040915		
	R: BE, CH, DE, FR, GB, IT, LI, NL				
	JP 2002522881	T	20020723	JP 2000-564224	199902 10
	TW 419702	B	20010121	TW 1999-88104169	199903 17
	US 6486602	B1	20021126	US 2000-508167	200003 08
PRAI	DE 1998-19835476	A	19980806		
	WO 1999-DE372	W	19990210		
AB	The surface of an electrode for a high pressure discharge lamp is at least partly covered by a dendritic layer from a high melting metal. Accordingly, a substantially longer life span is obtained. This electrode is used in the semiconductor industry as a mercury arc				

lamp, in the irradiation of semiconductors in photolithography processes and in xenon high pressure discharge lamps.

IT **7440-33-7, Tungsten, processes**  
(coating; electrode for a high pressure discharge lamp with long life span)  
RN 7440-33-7 HCA  
CN Tungsten (CA INDEX NAME)

W

IT **123-86-4, Butyl acetate**  
(electrode for a high pressure discharge lamp with long life span)  
RN 123-86-4 HCA  
CN Acetic acid, butyl ester (CA INDEX NAME)

n-Bu-O-Ac

IC ICM H01J061-073  
ICS H01J061-20  
CC 76-3 (Electric Phenomena)  
Section cross-reference(s): 74  
IT **Vapor deposition process**  
(chem., coating; electrode for a high pressure discharge lamp with long life span)  
IT 7439-98-7, Molybdenum, processes 7440-15-5, Rhenium, processes  
7440-25-7, Tantalum, processes **7440-33-7, Tungsten, processes** 11115-87-0, Hafnium nitride 11129-37-6, Hafnium carbide 12070-06-3, Tantalum carbide 12070-14-3, Zirconium carbide 119173-61-4, Zirconium nitride  
(coating; electrode for a high pressure discharge lamp with long life span)  
IT **123-86-4, Butyl acetate** 7439-97-6, Mercury, processes 7440-63-3, Xenon, processes  
(electrode for a high pressure discharge lamp with long life span)

L25 ANSWER 6 OF 7 HCA COPYRIGHT 2007 ACS on STN  
AN 107:117783 HCA  
TI Synthesis of diamonds by thermal **CVD [chemical vapor deposition]** using organic compounds  
AU Hirose, Yoichi  
CS Nippon Inst. Technol., Miyashiro, 345, Japan  
SO Kotai Butsuri (1986), 21(10), 731-7  
CODEN: KOTBA2; ISSN: 0454-4544  
DT Journal

LA Japanese  
 AB Diamond films were prep'd. by **chem. vapor deposition (CVD)** using a W filament (2000-2500°) from MeOH, EtOH, iso-PrOH, tert-BuOH, acetone, Et<sub>2</sub>O, iso-Pr<sub>2</sub>O, MeOAc, AcH, and Me<sub>3</sub>N. H<sub>2</sub> and vapor of the org. feed material, which was 0.1-10 vol.% H<sub>2</sub>, was kept at 1-800 torr, and the flow was controlled to be 10-500 cm<sup>3</sup>/min. A substrate (Si, W, Mo, or SiC) was kept at 500-800°. Me radicals decomp'd. at the W filament deposited on the substrate. These films showed good cryst. properties and high quality in electron diffraction and the Raman spectra.

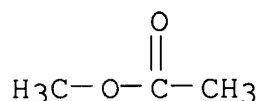
IT **7440-33-7**, Tungsten, uses and miscellaneous (diamond film **chem. vapor deposition** on)

RN 7440-33-7 HCA  
 CN Tungsten (CA INDEX NAME)

W

IT **79-20-9**, Methyl acetate (pyrolysis of, in **chem. vapor deposition** of diamond film)

RN 79-20-9 HCA  
 CN Acetic acid, methyl ester (CA INDEX NAME)



CC 49-1 (Industrial Inorganic Chemicals)  
 ST diamond film **chem vapor deposition**;  
 alc thermal decompn diamond film; aldehyde thermal decompn diamond film; ether thermal decompn diamond film

IT 409-21-2, Silicon monocarbide, uses and miscellaneous 7439-98-7, Molybdenum, uses and miscellaneous 7440-21-3, Silicon, uses and miscellaneous **7440-33-7**, Tungsten, uses and miscellaneous (diamond film **chem. vapor deposition** on)

IT 7782-40-3P, preparation (film, **chem. vapor deposition** of, on heated substrate)

IT 60-29-7, Diethyl ether, reactions 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, Isopropylalcohol, reactions 67-64-1, Acetone, reactions 75-07-0, Acetaldehyde, reactions 75-50-3, Trimethylamine, reactions 75-65-0, tert-Butylalcohol, reactions **79-20-9**, Methyl acetate 108-20-3, Diisopropyl

ether

(pyrolysis of, in **chem. vapor**  
**deposition** of diamond film)

L25 ANSWER 7 OF 7 HCA COPYRIGHT 2007 ACS on STN

AN 94:88892 HCA

TI Chromium coating of heat-resistant alloys

PA Hitachi, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 55082775	A	19800621	JP 1978-157215	197812 15

PRAI JP 1978-157215 A 19781215

AB Heat-resistant alloys contg. Ni and/or Co are precoated with Ni, and then coated with Cr by **chem. vapor deposition**. The products are used to make parts for gas-turbines or jet-engines. Thus, a Ni alloy [75901-81-4] contg. (Nb + Ta) 2.29, C 0.12, Ni 0.01, Mn 0.01, Cr 15.74, Mo 1.76, Fe 0.21, Co 8.29, Ti 3.25, Al 3.26, and W 2.60% was coated with a mixt. contg. powd. Ni (2  $\mu$ ), nitrocellulose, and **BuOAc**, heated at 800° in vacuum for 3 h to form a Ni coating (.apprx.50  $\mu$ ), and then coated with Cr by **chem. vapor deposition**. The product had high thermal shock resistance and corrosion resistance.

IT 75901-81-4

(chromizing of, nickel intermediate coating for)

RN 75901-81-4 HCA

CN Nickel alloy, base, Ni 62, Cr 16, Co 8.3, Al 3.3, Ti 3.2, W 2.6, Nb 0-2.3, Ta 0-2.3, Mo 1.8, Fe 0.2, C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====
Ni	62	7440-02-0
Cr	16	7440-47-3
Co	8.3	7440-48-4
Al	3.3	7429-90-5
Ti	3.2	7440-32-6
W	2.6	7440-33-7
Nb	0 - 2.3	7440-03-1
Ta	0 - 2.3	7440-25-7

Mo	1.8	7439-98-7
Fe	0.2	7439-89-6
C	0.1	7440-44-0

IC C23C011-04

CC 56-5 (Nonferrous Metals and Alloys)

IT **75901-81-4**

(chromizing of, nickel intermediate coating for)